Spilochalcis sp. near *nigropleuralis*, were reared from puparia of *Lydinolydella metallica*.

Three species of Phoridae belonging to the genus *Megaselia* were found to be predaceous on the eggs of *Epilachna*.

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THE OVIPOSITION OF THE TWO-STRIPED WALKINGSTICK, ANISOMORPHA BUPRESTOIDES (Stoll)

(ORTHOPTERA, PHASMIDAE)

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Entomologists generally accept the walkingsticks as insects that drop their eggs indescriminately and make no provision for their young. Both Blatchley and Comstock, as well as other writers, present this impression. Undoubtedly many of the members of the Phasmidae do follow this pattern.

During the autumn of 1948 the writer had the opportunity to observe great numbers of a large black and white walkingstick near Salt Springs, Marion County, Florida. Specimens of the insects were collected and submitted to the United States National Museum for identification. Mr. C. F. W. Muesebeck reported that the specimens had been examined by Dr. A. B. Gurney who considered them to be a color variation of *Anisomorpha buprestoides* (Stoll). The National Museum specialists urged that cage studies of these insects be made in order to definitely establish the correct taxonomic status.

In the autumn of 1948 several thousand pairs of these walkingsticks were observed in the field and their oviposition habits were of special interest. Here is a member of the family Phasmidae that definitely makes provision for the protection and insured hatching of eggs. Although there are no apparent modifications of the legs, the female of *Anisomorpha buprestoides* (Stoll) is a fossorial insect during the egg-laying season. Small pits are dug in the sandy soil by the female walkingstick, both the prothoracic legs and the mesothoracic legs aiding in the excavating.

After the pit has been dug, the actual process of oviposition is interesting to observe. The female walkingstick may remain almost motionless with her head and prothorax pointed downward into the deepest portion of the pit and with the tip of the long abdomen far behind the excavation. Slowly the abdomen curves upward and forward over the insect. The egg is released from above the head and prothorax of the insect and thus falls into the excavation. Immediately and quickly after the release of each egg the abdomen returns to its normal lateral position. The mesothoracic legs are used to scratch sand into the excavation and thus cover eggs that have been dropped. Apparently no more than eight or ten eggs are laid in each hole; the female then moves away from the partially closed pit to seek another location.

Usually during oviposition the diminutive male remains attached to the female. At first sight the pair appears to be in copulation. On closer examination it is noted that the male genitalia are attached to a specialized area in the conjunctiva of the sternite anterior to the genital segment of the female. Littig considers this to be a "primitive gonopore" and states that in copulation the male genitalia are inserted into the genital segment (8th sternite) of the female. Since observations of the insects did not begin until late in the season, such copulatory procedure has not been observed by the writer. It seems likely that the attachment of the male at the time of oviposition is merely a means of aiding him in remaining close to the female.

The reasons for *Anisomorpha buprestoides* (Stoll) placing its eggs in the soil are not entirely clear. Perhaps only eggs so placed have the necessary moisture relationships to assure hatching. Winter predators such as birds and rodents may not be able to find and destroy so many of the eggs if they are buried. Winter fires are not uncommon in the scrub areas where the black and white walkingsticks are abundant. Although it seems unlikely that the thin sand covering would afford much protection from these fires, this relationship may be worthy of further investigation.

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